

CLAIMS

5           What is claimed:

1.       (Amended) A battery casing comprising:

- 10           a)     a bottom portion having a bottom and side walls  
              forming a compartment for holding a battery acid  
              and battery plates;
- 15           b)     top portion for covering said compartment, wherein  
              the bottom portion and top portion are formed of a  
              flame retardant thermoplastic composition  
              comprising a homopolymer, a copolymer, and  
              ammonium polyphosphate, the battery casing  
20           having a burn rating of V-O under the UL-94  
              standard and a flexural modulus in the range of  
              228,000 to 275,000.

2.       (Amended) A battery casing formed of a flame-retardant  
thermoplastic composition, comprising:

- 25           a)     a homopolymer
- b)     a copolymer; and
- 30           c)     ammonium polyphosphate, the battery casing  
              having a burn rating of V-O under the UL-94  
              standard and a flexural modulus in the range of  
              228,000 to 275,000.

35       3.       The battery casing of Claim 2 wherein the homopolymer  
              includes Polypropylene.

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4. The battery casing of Claim 2 wherein the homopolymer includes polyethylene.
  5. The battery casing of Claim 2 wherein the copolymer includes ethylene and propylene.
  6. The battery casing of Claim 2 wherein the homopolymer of the composition is in a range of between about 33 and 35 percent by weight.
  7. The battery casing Claim 2 wherein the copolymer of the composition is in a range of between about 33 and 35 percent by weight.
  8. (Amended) The battery casing of Claim 2 wherein the ammonium polyphosphate comprises a flame-retardant system having a melt flow rate in the range of 12.0 to 16.0g/10min.
  9. The battery casing of Claim 2 wherein the ammonium polyphosphate is in the range of between about 25 and 27 by weight.
  10. The battery casing Claim 2 wherein the homopolymer and copolymer are selected from polyolefins.
  11. (Amended) the battery casing of Claim 2 wherein the homopolymer and copolymer comprise a crystalline product formed by polymerization of one or more monoolefins selected from the group consisting of ethylene, propylene, 1-butene, 1-pentene, 1-hexene, 2-methyl-1-propene, 3-methyl-1-pentene, 4-methyl-1-pentene, and 5-methyl-1-hexene.
  12. The battery casing of Claim 11 wherein monoolefins are selected from the group consisting of propylene and ethylene.

- 5 13. The battery casing of Claim 12 wherein the polymerized polypropylene is selected from the group consisting of isotactic polymers of propylene, ethylene, and copolymers of propylene with ethylene.
- 10 14. The battery casing of Claim 2 wherein the thermoplastic composition, also includes a filler selected from the group consisting of aluminum trihydrate, hydrated magnesium, hydrated calcium silicate and calcium carbonate.
- 15 15. The battery casing of Claim 14 wherein said filler varies from about 0-250 parts per 100 parts of the homopolymer and copolymer.
- 20 16. The battery casing of Claim 14 wherein said filler further includes melamine and polyol.
- 20 17. The battery casing of Claim 2 which is included in a photovoltaic battery.
- 25 18. The battery casing of Claim 2 which is included in a motive battery.
- 25 19. The battery casing of Claim 2 which is included in a backup battery.
- 30 20. (Amended) A method for forming a flame-retardant composition for a battery casing comprising blending a homopolymer, copolymer and ammonium polyphosphate together at a temperature in a range of between about 340 and 410°F to form the flame retardant composition, the composition having a melt flow rate in the range of 9.6 to 16.0g/10min. and flexural modulus in the range of 228,000 to 275,000.
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21. The method of Claim 20 wherein the composition is blended with two rotors having forward and reverse helix angles and said rotors are counterrotating and non-intermeshing.
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22. The method of Claim 21 wherein the rotors have a diameter of about 3.84 inches and working length of about fourteen inches.

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